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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,902

12/11/2003

Christian R. Saulnier

1348

8469

7590

10/04/2004

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EXAMINER

TANG, MINH NHUT

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,902

Applicant(s)

SAULNIER ET AL.

Examiner

Minh N. Tang

Art Unit

2829



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/11/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on December 11, 2003 is considered by the examiner.

Specification

2. The disclosure is objected to because of the following informalities: on page 9, line 21, "ceramic layer 13" should be -- ceramic layer 17 --.

Appropriate correction is required.

Claim Objections

3. Claim 14 is objected to because of the following informalities: in claim 14, line 2, the limitation "the first and second surfaces" and "the internal wall" should be -- the first and second outer surfaces --, and -- the internal wall of the DUT-receiving hole --, respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagasaki et al. (U.S.P. 5,886,863).

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As to claim 1, Nagasaki et al. disclose, in Fig. 5, a vacuum ring (101) for use in conjunction with a test plate on a component testing system, the vacuum ring (101) comprising: a metallic base material (102) that defines at least one vacuum-communicating passageway (101b), the metallic base material (101) having a test-plate-facing first surface (102a), and means (103) for improving abrasion resistance of the vacuum ring (101), including a ceramic layer (103) disposed on the test-plate-facing first surface (102a) of the metallic base material (102).

As to claim 2, Nagasaki et al. disclose in Fig. 5, the metallic base material (102) is at least partially composed of aluminum and the ceramic layer (103) is composed of alumina.

As to claims 3 and 9, Nagasaki et al. disclose in column 12, lines 41-43, the ceramic layer (103) is no less than about 20 micrometers thick.

As to claims 4 and 10, Nagasaki et al. disclose in column 12, lines 41-43, the ceramic layer (103) is no greater than about 100 micrometers thick.

As to claims 5 and 11, Nagasaki et al. disclose in Fig. 5, the ceramic layer (103) is bonded to the metallic base material/DUT-holding structure (102) by molecular adhesion.

As to claims 6 and 12, Nagasaki et al. disclose in Fig. 5, the ceramic layer (103) is formed on the metallic base material/DUT-holding structure (102) by a micro-arc oxidation process.

As to claim 7, Nagasaki et al. disclose, in Fig. 5, test plate (101) for holding DUTs (semiconductor wafer 108), comprising: a DUT-holding structure (102) that defines at

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least one DUT-receiving hole (101b), said DUT-holding structure (102) being composed at least partially of a metallic material (i.e., aluminum) that has oppositely facing first and second outer surfaces (102a, 102b) and means (103) for improving abrasion resistance of the test plate (101), including a ceramic layer (103) disposed on at least the first outer surface (102a) of the DUT-holding structure (102).

As to claim 8, Nagasaki et al. disclose in Fig. 5, the DUT-holding structure (102) is at least partially composed of aluminum and the ceramic layer (103) is composed of alumina.

As to claim 13, Nagasaki et al. disclose in Fig. 5, the DUT-holding structure (102) includes an internal wall (102c) that defines the DUT-holding hole (101b) and the ceramic layer (103) covers the internal wall (102c).

As to claim 14, Nagasaki et al. disclose in Fig. 5, the ceramic layer (103) covers both the first and second outer surfaces (102a, 102b) and the internal wall (102c) of the DUT-receiving hole (101b) in order to enable use of the DUT-holding structure (102) as a guard layer that is held at a selected electrical potential for testing purposes.

As to claim 15, Nagasaki et al. disclose, in Fig. 5, a vacuum ring (101) for use in conjunction with a test plate (also called 101) on a component testing system for testing DUTs (108, Fig. 4) such that each DUT (108) has a cross sectional area less than a predetermined minimum cross sectional area, the vacuum ring (101) comprising: a base (102) and means (101b) for ejecting DUTs (108) from the test plate (101), said means (101b) including an eject hole pattern defined by the base (102) for discharging compressed gas (i.e., helium gas) toward the DUTS (108); wherein the eject hole

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pattern includes a plurality of closely spaced apart individual holes (101b) such that each of the individual holes (101b) has a cross sectional area that is less than the size that would be large enough to receive a DUT (108) having the predetermined minimum cross sectional area; whereby the number of holes (101b) affecting a particular DUT (108) for DUT ejection purposes is dependent on the cross sectional size of that particular DUT (108).

As to claim 17, Nagasaki et al. disclose in Fig. 5, a ceramic layer (103) on the base (102).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaki et al. (U.S.P. 5,886,863) in view of Delgado et al. (U.S.P. 4,669,416).

As to claim 16, Nagasaki et al. disclose all the limitations recited in the claim except for the holes have diameters of about five mils. Delgado et al. disclose in column 7, line 65 to column 8, line 4, the diameter of the receptor holes (21) is 0.05", and the diameter of the receptor holes (21) is chosen so that the cross section area of the receptor holes is slightly smaller than the electronic components to be handled with the carrier plate. Therefore, it would have been obvious for one of ordinary skill in the art to modify the apparatus of Nagasaki et al. by providing the diameter of 5 mils for the holes as taught by Delgado et al. so that the component can be force gently into each hole and retained there during the end coating operation, or other component processing operation, the modification would have been obvious to one of ordinary skill in the art and does not provide any unexpected, or nonobvious result, and would have been one of numerous parameters chosen by the ordinary skilled artisan during routine experimentation.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Saulnier et al.	6,710,611	Test Plate For Ceramic Surface Mount Devices And Other Electronic Components.
Takahashi et al.	5,781,400	Electrostatically Attracting Electrode And A Method Of Manufacture Thereof.

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Nami et al. 5,337,893 High Capacity Carrier Plate.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Minh N. Tang
Primary Examiner
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9/23/04